Attorney's Docket No.: 12732-186001 / US6794 Applicant: Hajime Kimura

Serial No.: 10/727,057 : December 4, 2003 Filed

Page : 4 of 11

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A semiconductor device comprising:

m-pieces of current sources I_1, I_2, \ldots , and I_m ; and

a switching circuit including:

n-pieces of input terminals D_1, D_2, \ldots , and D_n ; and

m-pieces of output terminals O_1, O_2, \ldots , and O_m ,

wherein the current source Ik and the output terminal Ok of the switching circuit are electrically connected to each other (k = 1 to m), and

the switching circuit selects the output terminals O_1, O_2, \ldots , and O_m to be connected to the input terminal D_k by using signals which are input to the input terminals D_1, D_2, \ldots , and D_n of the switching circuit.

- 2. (Original) The semiconductor device according to claim 1, wherein the switching circuit selects the output terminals O_1, O_2, \ldots , and O_m to be connected to the input terminal D_k by further using a signal which is input externally.
 - 3. (Original) A display device comprising the semiconductor device according to claim 1.
- 4. (Original) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 1.
 - 5. (Original) A semiconductor device comprising: m-pieces of current sources; and

Serial No.: 10/727,057
Filed: December 4, 2003

Page : 5 of 11

a switching circuit including n-pieces of input terminals and m-pieces of output terminals,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

at least one of the input terminals of the switching circuit is connected to one or a plurality of switches,

the switch is connected to one of the m-pieces of the output terminals, and the switching circuit controls ON/OFF of the switch by using a signal which is input from at least one of the n-pieces of the input terminals.

6. (Original) A semiconductor device comprising:

m-pieces of current sources; and

a switching circuit including n-pieces of input terminals and m-pieces of output terminals,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

at least one of the output terminals of the switching circuit is connected to one or a plurality of switches,

the switch is connected to one of the n-pieces of the input terminals, and the switching circuit controls ON/OFF of the switch by using a signal which is input from at least one of the n-pieces of the input terminals.

- 7. (Currently Amended) The semiconductor device according to claim 5 [[or 6]], wherein the switching circuit controls ON/OFF of the switching circuit by further using a signal which is input externally.
- 8. (Currently Amended) The semiconductor device according to claim 5 [[or 6]], wherein the switch comprises a digital circuit.

Serial No.: 10/727,057
Filed: December 4, 2003

Page : 6 of 11

9. (Currently Amended) A display device comprising the semiconductor device according to claim 5 [[or 6]].

- 10. (Currently Amended) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 5 [[or 6]].
- 11. (Original) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

m-pieces of current sources; and

a switching circuit including n-pieces of input terminals and m-pieces of output terminals,

wherein the m-pieces of the current sources are each connected to one of the different output terminals, and

the switching circuit selects an output terminal to be connected to the n-pieces of the input terminals among the m-pieces of the output terminals by using at least one of the n-bit digital voltage signals.

- 12. (Original) The digital-analog converter circuit according to claim 11, wherein the switching circuit selects an output terminal to be connected to the n-pieces of the input terminals among the m-pieces of the output terminals by further using a signal which is input externally.
- 13. (Original) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

m-pieces of current sources; and

a switching circuit including n-pieces of input terminals, m-pieces of output terminals, and m-pieces of switch units,

Serial No.: 10/727,057
Filed: December 4, 2003

Page : 7 of 11

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

the m-pieces of the output terminals are each connected to one of the different switch units,

the m-pieces of the switch units are each connected to one or a plurality of the input terminals, and

the switching circuit controls the m-pieces of the switch units by using at least one of the n-bit digital voltage signals, thereby selecting an input terminal to be connected to the output terminal.

- 14. (Original) The digital-analog converter circuit according to claim 13, wherein the switching circuit controls the m-pieces of the switch units by further using a signal which is input externally.
- 15. (Original) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

m-pieces of current sources; and

a switching circuit including, n-pieces of input terminals, m-pieces of output terminals, and k (1 = k < m) - pieces of switch units,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

the k-pieces of the output terminals among m-pieces are each connected to one of the switch units,

the rest (m - k) - pieces of the output terminals are each connected to at least one of the input terminals without the intermediary of the switch unit,

the k-pieces of the switch units are each connected to one or a plurality of the input terminals, and

Serial No. : 10/727,057

Filed: December 4, 2003

Page : 8 of 11

the switching circuit controls the k-pieces of the switch units by using at least one of the n-bit digital voltage signals, thereby selecting an input terminal to be connected to the output terminal.

- 16. (Original) The digital-analog converter circuit according to claim 15, wherein the mpieces of the switch units are controlled by further using a signal which is input externally.
- 17. (Currently Amended) A digital-analog converter circuit according to any one of claims 11, 13, and 15 claim 11, wherein the switch unit comprises a digital circuit.
- 18. (Currently Amended) A display device comprising the digital-analog converter circuit according to any one of claims 11, 13, and 15 claim 11 in a signal line driver circuit.
- 19. (Currently Amended) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to any one of claims 11, 13, and 15 claim 11.
- 20. (New) The semiconductor device according to claim 6, wherein the switching circuit controls ON/OFF of the switching circuit by further using a signal which is input externally.
- 21. (New) The semiconductor device according to claim 6, wherein the switch comprises a digital circuit.
 - 22. (New) A display device comprising the semiconductor device according to claim 6.
- 23. (New) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 6.

Serial No.: 10/727,057 Filed: December 4, 2003

Page : 9 of 11

24. (New) A digital-analog converter circuit according to claim 13, wherein the switch unit comprises a digital circuit.

- 25. (New) A digital-analog converter circuit according to claim 15, wherein the switch unit comprises a digital circuit.
- 26. (New) A display device comprising the digital-analog converter circuit according to claim 13 in a signal line driver circuit.
- 27. (New) A display device comprising the digital-analog converter circuit according to claim 15 in a signal line driver circuit.
- 28. (New) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to claim 13.
- 29. (New) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to claim 15.

Attorney's Docket No.: 12732-186001 / US6794 Applicant: Hajime Kimura

Serial No.: 10/727,057 : December 4, 2003 : 10 of 11 Filed

Page

Amendments to the Drawings:

Please replace the drawings submitted with the application with the attached drawings in English. Additionally, please amend Fig. 12 as follows:

The attached replacement sheet of drawings includes changes to Fig. 12 and replaces the original sheet including Fig. 12.

In Figure 2, "512" has been changed to "521."

Attachments following last page of this Amendment:

Replacement Drawing (in English) Sheets (Figs. 1-34)

Amendments:

Replacement Drawing Sheet (Fig. 12) - (1 page)

Annotated Drawing Sheet Showing Change(s) (Fig. 12) - (1 page)